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## **Capital Investment Document**

This format will be used for providing a description of functional requirements for all planned materiel handling systems investment projects. Not all of the sections listed will apply to every project. This will be determined based on the project scope, and provided at a level of detail consistent with the planning increment in which the project is identified. Sections that are not applicable require an entry stating such.

### **SECTION 1 - GENERAL**

1.1 Purpose. Identify a project title. Provide a brief narrative that describes the intent of the project, an overview of the preliminary design, and a projection of the productive and cost advantages associated with the project.

1.2 Project References. A brief summary of historical and developmental references related to the project.

1.3 Terms and Abbreviations. Provide a list or appendix of terms or acronyms with definitions unique to this project and/or description.

### **SECTION 2 - SYSTEM SUMMARY**

2.1 Background. Develop the project background. Identify the general use and specific purpose of the system, and its relationship to other existing and/or planned capabilities.

2.2 Objectives. State the specific performance requirements and goals of the system, including quantified projections when possible. Address potential operational changes that could affect the systems function, and contingencies within the design to handle those changes.

2.3 Existing Methods and Procedures. Briefly describe current methods being applied to support the requirement that would be accomplished by the proposed system. Identify the organization, number of staff, equipment, and inadequacies associated with the current method.

2.4 Proposed Methods and Procedures. Provide a description of the proposed system that describes how the existing processes and procedures identified in paragraph 2.3 will be modified or replaced. Explain how the proposed system will be integrated into the process and/or interact with existing or planned systems.

2.4.1 Summary of Improvements. Provide a qualitative and quantitative summary of the benefits that will be obtained from the proposed system. Identify and explain new capabilities, upgrades of existing capabilities, response time improvements, and elimination of any obsolete capabilities provided by the proposed system.

2.4.2 Summary of Impacts. Paragraphs under this title describe the cost and operational impacts of the new system on the system user's operational and organizational environment.

2.4.2.1 User Organization Impacts. Identify staff end strength and position classification changes that are anticipated as a result of implementing the proposed system.

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2.4.2.2 User Operational Impacts. Identify the impact on the users operation during and after implementation of the proposed system. Explain interfaces between the new system and existing and /or planned ADP, AMHS and manual operations as they relate to the planned implementation phases of the proposed system.

2.4.2.3 User Development Impacts. Describe the development requirements directly associated with implementation of the proposed system. Identify direct labor requirements to modify and/or integrate existing ADP and/or materiel handling equipment processes into the proposed system, to operationally test the proposed system, and for operations and maintenance employee training.

2.5 Assumptions and Constraints. Describe any user assumptions or constraints that will affect sub-optimize development or operation of the proposed system. Examples of assumptions include organizational actions, budget decisions, or operational environment requirements. Examples of constraints include operational environment, budget limitations, implementation deadlines, and regulatory or statutory limitations.

### **SECTION 3 - DETAILED AMHS/MMHS FUNCTIONAL REQUIREMENTS**

3.1 Materiel Characteristics. Describe the characteristics of the materiels that will be processed through the proposed system. Identify commodity(s) type, shape, minimum to maximum size, weight, and cube, and control restrictions, (e.g. flammable, hazardous, perishable, security, etc.)

3.2 Storage Requirements. Identify the storage space requirements, existing and planned for materiel that will be under control of the proposed system.

3.3 Materiel Flow Requirements. Provide a chart that depicts material flow through the proposed system. Identify the commodity(s) as they move through the processes of the proposed system. Depict and explain capabilities that are eliminated or degraded in existing systems as a result of implementing the proposed system.

3.3.1 Work Station Requirements. Identify manual and mechanical or automated workstations within the proposed system design. Explain the function performed, space requirements and ergonomic considerations associated with each workstation.

3.3.2 Work Station Capacities. Identify the intended throughput and accumulation capacity of each workstation of the proposed system.

3.4 Specific Performance Requirements. Identify the specific performance requirement that served as the basis for the design of the proposed system. Include explanations of how testing procedures will support validation of these requirements, and capabilities of the proposed system to address mobilization requirements.

3.4.1 System Throughput. Provide a quantitative statement of the proposed system's capacity. This should include materiel and data transactions, processing times, and time required to accommodate user requirement changes (identified in time periods such as "per hour", "per shift" etc.)

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3.5 Failure Contingencies. Describe work around alternatives that would be utilized to support functional requirements in the event that the proposed system failed.

3.6 Training Requirements. Describe training requirements for operation of the proposed system. Identify total hours required and planned location (on or off site) and provider (contractor or supervisor) or the training.

3.7 Maintenance Requirements. Discuss the general maintenance plan for the proposed system. Identify whether the maintenance will be performed by contractor or government staff, estimated annual costs (separate, for parts and labor) and any anticipated impact on staff end strength, organization and/or classification of employees for government supported maintenance.

3.8 Work-Around Requirements. Describe the situation and requirements that will be used to support the mission during implementation of the proposed system. Identify interim procedures and temporary staffing and equipment requirements.

### **SECTION 4 - DETAILED ADP FUNCTIONAL REQUIREMENTS**

4.1 ADP System Description. Provide a general description of the ADS functions included in the proposed system. Identify related system interfaces and a chart showing the relationship between the user organizations and the major components of the proposed ADS.

4.2 Timing. Explain the timing relationships of the ADS to AMHS throughput as described in paragraph 3.4.1 above. Expand this discussion to address the following:

- (a) Response time to queries and to data file updates.
- (b) Sequential relationships of system functions.
- (c) Requirements for traffic ranges under varying operating conditions.
- (d) Timing requirements for hard copy reports.

4.3 Availability. Identify the functional users requirement for availability of the ADS associated with the proposed system.

4.4 Flexibility. Identify ADS components of the proposed system that are designed to be adjusted to adapt to anticipated operational changes.

### **SECTION 5 - DATA PROCESSING ENVIRONMENT**

5.1 Equipment Environment. Describe the requirements for types and quantities of terminals, printers, bar code readers, and processors. Identify items that are on hand, and new items that will be required to implement the proposed system.

5.2 Program/Software Environment. Identify the source(s) of software that will support operation of the proposed system (e.g. developed under the project, existing commercial software, DoD software).

5.3 Interfaces. Identify interfaces with other operating systems and sub-systems. Provide a general description of the characteristics of the communication media and data transfer requirements between systems.

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5.4 Summary of Impacts. Identify anticipated organizational and operational impacts of implementation of the ADS portion of the proposed system on the user's ADP support organization.

5.4.1 ADP Organization Impacts. Identify the impact on the staff requirement of the user's ADP support organization. Include initial and recurring operational and maintenance training, position classification impacts and anticipate additions or deletions of end strength requirements.

5.4.2 ADP Operational Impacts. Describe the impact implementation of the new and/or revised ADS will have on operational processes and procedures of the ADP organization.

5.4.3 ADP Development Impact. Identify requirements for personnel and equipment to develop, implement and test new and/or revised ADS associated with the proposed system.

5.5 Failure Contingencies. Discuss any possible ADS failures, the consequences, anticipated remedial times, and planned work-around actions for each possible problem. Identify work-around capabilities, capacities and projected requirements for additional equipment and personnel.

5.6 Security. Describe the degree of data protection required within the proposed system ADS.

5.7 Assumptions and Constraints. Identify any assumptions regarding data automation constraints that will effect development or operation of the ADS of the proposed system.

## **SECTION 6 - SYSTEM DEVELOPMENT PLAN**

Provide a discussion of the overall management approach to developing and implementing the ADS of the proposed system. Identify documentation that will be produced, time frames for developing modules of the system, and required liaisons and participation by other sources necessary to development, implementation and operation of the proposed system's ADS.